

PATENT CLAIMS

1. A method for controlling and monitoring, from a server, transfers of jobs from clients connected in the network to shared resources connected in the network, **characterized by** the steps of:

- receiving from a client connected in the network a request to be allowed to send a job to a selected shared resource connected in the network; and

- checking continuously whether said shared resource connected in the network is accessible and has capacity for receiving a job at present, wherein

- a go-ahead is sent immediately to the client connected in the network that the client can send the job directly to the selected shared resource if the selected shared resource is accessible and has capacity to receive a job at present;

- the request is placed in a queue for the selected shared resource if the shared resource connected in the network is accessible but at present lacks capacity for receiving a job, the queue is updated continuously, and a go-ahead is sent to the client connected in the network that the client can send the job directly to the selected shared resource when the request has advanced to the first position in said queue and the selected shared resource has capacity to receive a job; and

- the client connected in the network is notified if the selected shared resource is not accessible, wherein

- said step of receiving a request from a client connected in the network is followed by assigning an identity to the job, which is notified the client connected in the network, and said identity is comprised in the go-ahead, which is sent to the client connected in the network that the client can send the job directly to the selected shared resource, so that the client connected in the network based on said identity is capable of identifying said job; and

- a confirmation of the fact that the job has been completed successfully by the shared resource or an indication of the fact that the job has not been completed successfully by the shared resource is received from the client, after which said request is removed from said queue.

2. A method of claim 1, wherein updated status information regarding the completion of the job by the shared resource is received from the client connected in the network repetitively between said go-ahead is sent to the client connected in the network and said confirmation that the job has been completed successfully by the shared resource or said indication that the job has not been completed successfully by the shared resource is received, wherein absence of such updated status information indicates an operation error of the client connected in the network, or a communication error in the communication between the client and the server.

3. A method of claim 1 or 2, wherein a confirmation that said assigned identity has been received by the client connected in the network, is received.

4. A method of any of claims 1-3, wherein a confirmation that the go-ahead, which is sent to the client connected in the network that he/she may send the job to the selected shared resource directly has been received by the client connected in the network, is received.

5. A method of claim 4, wherein said confirmation that the go-ahead, which is sent to the client connected in the network that he/she may send the job to the shared resource directly has been received, is also confirmation that the job has been or will be sent to the shared resource directly.

6. A method of any of claims 1-5, wherein said shared resource is a printer and said job is a print job.

7. A method of claim 6, wherein said shared resource is a transmitter device, particularly a telefax apparatus, a displaying unit, particularly a projector, or a device for storing data, particularly a CD recorder, a DVD recorder or similar, and said job is a job to send, display or store data.

8. A method of any of claims 1-7, wherein information regarding status of the shared resource is sent to the client connected in the network.

9. A method of any of claims 1-8, wherein

- a version of client software for the client connected in the network, which relates to communication with the selected shared resource, is stored,

- information is received from the client connected in the network concerning the version of the client software the client connected in the network is using for communication with the selected shared resource,

- the versions of the client softwares are compared, and

- a copy of said stored client software is transferred to or installed on the client connected in the network if said comparison shows that the stored client software is younger than the client software used by the client connected in the network.

10. A method of claim 9, wherein said information regarding the version of the client software the client connected in the network is using, is received together with said request to be allowed to send a job to the selected shared resource.

11. A method of any of claims 1-10, wherein

- said request to be allowed to send a job to the selected shared resource comprises a user domain and a user identity for the client connected in the network,

- it is checked that the client connected in the network has authorization to send a job to the selected shared resource, and

- if the client connected in the network does not have authorization to send a job to the selected shared resource an error code is sent to the client connected in the network.

12. A method of claim 11, wherein

- if the client connected in the network has authorization to be allowed to send a job to the selected shared resource it is checked which user priority the client connected in the network has, and

- said request is put in said queue depending on the user priority of the client connected in the network.

13. A method of any of claims 1-12, wherein information of the size of said job is received from the client connected in the network.

14. A method of claim 13 when depending on claim 3, wherein said information of the size of the said job is received together with said confirmation that said assigned identity has been received.

15. A method of any of claims 1-14, wherein status of the shared resources in the network is checked continuously.

16. A method of any of claims 1-15, wherein information regarding status of shared resources in the network, information regarding queues and information regarding clients and jobs are continuously copied to a second server for controlling and monitoring of transfers of jobs.

17. A computer program product downloadable into the internal memory of a server and comprising software code portions for performing the method of any of claims 1-16 when said computer program product is executed on said server.

18. A server having the computer program product of claim 17 downloaded.

19. A method for transfer a job from a client connected in the network to a shared resource selected by the client among several shared resources connected in the network, **c h a r a - c t e r i z e d b y** the steps of:

- sending to a server for controlling and monitoring transfers of jobs to shared resources connected in the network, a request to be allowed to send a job directly to the selected shared resource connected in the network, where said server is adapted to assign an identity to the job, which is communicated to the client connected in the network, to place the request in a queue for the selected shared resource, to update the queue continuously, and to give go-ahead to the client connected in the network when he/she is next to send the job to the selected shared resource; and
- receiving a message of said identity from said server;
- preparing and storing said job;
- receiving a go-ahead from said server that the job may be sent to the selected shared resource, where the go-ahead comprises said identity so that said job can be identified based on said identity;
- sending the job directly to the selected shared resource; and
- receiving from the selected shared resource a confirmation that the job has been completed successfully by the shared resource or an indication of the fact that the job has not been completed successfully by the shared resource, and forwarding this confirmation or indication to the server so that removal of the request from said queue is made possible.

20. A method of claim 19, wherein updated status information regarding the completion of the job by the shared resource is sent to said server repetitively between said go-ahead is received from said server and said confirmation that the job has been completed successfully by the shared resource or said indication that the job has not been completed successfully by the shared resource is received from the shared resource and is forwarded to said server, wherein absence of

such updated status information on said server indicates an operation error of the client connected in the network, or a communication error in the communication between the client and the server.

21. A method of claim 19 or 20, wherein a confirmation that said message of said assigned identity has been received, is sent to said server.

22. A method of any of claims 19-21, wherein a confirmation that said go-ahead that the job may be sent to the selected shared resource has been received, is sent to said server.

23. A method of claim 22, wherein said confirmation that said go-ahead has been received is also confirmation that the job has been or will be sent to the shared resource.

24. A method of any of claims 19-23, wherein said shared resource is a printer and said job is a print job.

25. A method of claim 24, wherein said shared resource is a transmitter device, particularly a telefax apparatus, a displaying device, particularly a projector, or a device for storing data, particularly a CD recorder, a DVD recorder or similar, and said job is a job to send, display or store data.

26. A method of any of claims 19-25, wherein
- information is sent to said server concerning the version of the client software the client connected in the network is using for communication with the selected shared resource,

- a copy of a client software stored by the server is received from said server if said copy has a later version number than the version number of the client software the client connected in the network is using.

27. A method of claim 26, wherein said information regarding the version of the client software the client

connected in the network is using, is sent to said server together with said request to be allowed to send a job to the selected shared resource.

28. A method of any of claims 19-27, wherein

- said request to be allowed to send a job to the selected shared resource comprises a user domain and a user identity for the client connected in the network; and
- an error code is received from said server if the client connected in the network does not have authorization to send a job to the selected shared resource.

29. A method of any of claims 19-28, wherein information of the size of said job is sent to said server.

30. A method of claim 29 when depending on claim 21, wherein said information of the size of the said job is sent to said server together with said confirmation that said assigned identity has been received.

31. A computer program product downloadable into the internal memory of a server and comprising software code portions for performing the method of any of claims 19-30 when said computer program product is executed on said server.

32. A client terminal having the computer program product of claim 31 downloaded.

33. A network comprising at least one server according to claim 18 and a plurality of the client terminal of claim 32.